2001 VEHICLE SPECIFICATIONS

AND

BID REQUIREMENTS

FOR

MODIFIED MINIVANS

PARATRANSIT BUSES

Prepared August 2001
Mass Transportation Program
Office of Specialized Transit and Procurement
Robert Jackson

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BIDDERS CERTIFICATIONS

0 CONTRACTOR REQUIREMENTS & NOTES

CHANGE ORDERS: This contract is subject to modifications or amendments by mutual agreement of the contractor and the Department of General Services, Office of Procurement, in writing. Any such modifications or amendments will be set forth in a contract change order which will specify the changes to be made, including any adjustments in contract time or in compensation payable to the contractor. Change orders shall be issued by the State Procurement Office. No exceptions to the specifications will be allowed unless the exceptions are listed on the purchase order or subsequent addendum. The State of California reserves the right to increase/decrease the quantity of the purchase order. Such increases/decreases shall be up to but not exceeding 25 percent of original purchase order, and shall be for the same unit price for a like item on the issued purchase order. The time limit for any increases/decreases to the purchase order quantity shall be not more than 90 days from issue date of purchase orders. Such increases/decreases shall be issued only by the State Procurement Office.

WARRANTY: The warranty of each unit shall include the chassis, engine, drive train, modifications, etc., and shall be equal to the current OEM standard warranty and shall start on the date of acceptance. The Contractor will coordinate warranty issues during the standard warranty period for all OEM and final stage manufacturer products. Each Contractor shall describe his/her policy and procedures concerning warranties, both on workmanship and material, as applying to this equipment, and the Contractor's/manufacturer's method of adjustment. The final stage manufacturer and or Contractor, shall assume the responsibility and warranty for all materials and accessories used in the vehicles, whether they are made by the manufacturer or purchased from an outside source for a minimum warranty of three years or 36,000 miles. A copy of this warranty shall be provided for each unit. The warranty, as well as any recall notifications, shall cover each vehicle of the ultimate purchaser or recipient agency. Any modification added to the base OEM vehicle that is required to be removed from the vehicle to perform warranty work will be at the cost of the Contractor. All warranty repairs will be the responsibility of and under the control of the Contractor.

SERVICE WARRANTY: Any recognized service or warranty work required, which is performed by the Contractor, under the Contractor's or manufacturer's warranty shall be at a location within the State and will be the responsibility of and paid for by the Contractor. This location must be within two hours travel time of the recipient's location or the Contractor must provide warranty work certification to a local shop capable of performing the work.

PARTS: An adequate stock of repair parts and qualified service facilities must be readily available in California, and must be available and delivered to the transportation providers repair shop within 48 hours of the time requested/ordered from the Contractor. The Contractor will bear all reasonable financial costs for providing backup service from alternative sources, for failure to provide repair parts within the 48-hour time limit; and will bear all such costs until the parts are received. The names of the service facilities must be included on the bidder's questionnaire attached as part of the bid package.

EXPERIENCE: The bidder and the manufacturer shall have three (3) years (minimum) experience (each) providing like vehicles to a government operation for each type vehicle proposed to be supplied. The bidder shall supply a list of three (3) (minimum) successful contracts with references for each type vehicle proposed to be supplied. The following information shall be included for each successful contract identified: contract identification / name, name (contact person), address, and telephone number (including area code). Additional information may be required to provide reasonable assurances

the bidder/manufacturer possesses the technical knowledge, proper equipment, adequate production facilities, and supply materials agreements, to complete the contract.

QUANTITY CONDITIONS: The number of units in this order indicates the best information available at the time of the bid preparation; however, all final amounts are subject to final approval of individual applications, and award of a grant by the Federal Transit Administration to the State of California, Department of Transportation, and are subject to the receipt of the necessary local matching funds. Contract quantities will be determined at the time the contract is awarded. **It is anticipated that vehicles procured through the FTA Section 5310 Grant Program will be ordered between the months of January and June of each calendar year. The California Department of Transportation, Division of Mass Transportation wants to ensure the timely delivery of vehicles ordered through the 5310 Grant Program, and is requiring that guaranteed vehicle production slots be made available for all orders during this period, to accomplish this task.** Additional units may be ordered by public agencies up to contract limits throughout the life of the contract.

INSPECTION: The intent of this inspection is to resolve as many discrepancies, as possible, on the equipment and allow the manufacturer the opportunity to correct the discrepancies while the equipment is still in the manufacturer's plant and before shipment to California. The cost of these inspections will be paid by the agency identified on the purchase order. This inspection in itself will not constitute acceptance of the vehicle. Final acceptance will be made upon delivery of an acceptable product complying with the specifications at the designated location indicated on the purchase order. Upon bid award, a preproduction meeting is required for each successful vehicle manufacturer at the manufacturer's facility. The meeting will include at a minimum, representative(s) from the successful manufacturer, dealer and representative(s) from Caltrans. A vehicle built to specification will be available for inspection prior to the start of the meeting. Travel cost for the Caltrans representative(s) for the preproduction meetings will be paid by the Contractor/Manufacturer. Caltrans is to be notified in writing, a minimum of 30 days prior to meeting date. Travel expenses will be paid in accordance with Department of Personnel Administration regulations: Title 2, California Administrative Code, Chapter 3, Subchapter 1, Article 2. Additional in-plant inspections during the design and construction of the vehicles, upon award of contract, can be requested by the Contractor/Manufacturer to have a representative of Caltrans, State Office of Procurement Standards and Quality Control Section and/or California Highway Patrol Commercial and Technical Services Section. All travel costs must be paid by the Contractor/Manufacturer as detailed above. Vehicle's inspected out of State at the manufacturer's plant, which do not comply with the specifications, will not be approved for shipment to California. Twenty (20) calendar days will be allowed to correct all deficiencies. Additional inspection trip's for compliance will be at the expense of the Contractor at the following rates: $50.00 per hour (including travel time) and all expenses (meals, lodging, and cost of transportation). The above fees may be deducted from the invoice. The Contractor will contact the Department of Transportation's representative identified on the purchase order 30 days prior to each phase and for all related technical questions regarding these specifications and the scheduling of all Contractor "Work-in-Process" inspection trips.

SERVICE: Prior to delivery, each vehicle shall be inspected and serviced by the contractor or by an authorized dealer of the manufacturer in a service shop within the State of California. The service shall include not less than the following: lubrication, wash, body condition; wheel alignment check, full tank(s) of fuel at the F.O.B. point, and all other checks and adjustments required for proper complete servicing of a new vehicle. Particular attention shall be given to door alignment, weather-stripping, hardware, paint condition and tagging of cooling system. A copy of the pre-delivery inspection and all subsequent inspections by contract inspectors is to be provided to the receiving agency upon delivery.

products complying with the specifications at the designated locations in the purchase order and signature of acceptance by the agency listed on the purchase order. Acceptance of delivery or placement in operation of any equipment shall not release the manufacturer from liability for faulty design, workmanship, or materials appearing even after final payment has been made.

VEHICLE REGISTRATION DOCUMENTS REQUIRED: All vehicles shall be registered by the Contractor. Senate Bill 498 (Chapter 673, Statutes of 1987) exempts vehicles purchased with FTA Section 16 funds from license and weight fees. However, registration fees are required. This fee shall be shown on the original vehicle invoices. A certification of compliance for vehicle emissions must be supplied at the time of delivery of each unit.

GENERAL: All equipment cataloged as standard for the basic vehicle, unless superseded by these specifications, must be furnished and included in the purchase price of each vehicle. "Caravan" or "driveaway" deliveries to the State will be accepted. Complete printed specifications, published literature, and photos, or illustrations of the basic unit or units that the bidder proposes to furnish must accompany each bid. Bids will not be considered if the Contractor's designated F.O.B. delivery destination is other than that stated in the invitation to bid. Bids will be considered only from a manufacturer having a California representative carrying an adequate supply of repair parts in the State of California. This representative shall have the capability of performing all warranty work in the State of California. The State requires the successful bidder to furnish evidence that they hold a valid distributor agreement from the bus manufacturer or is the bus manufacturer. The manufacturer shall provide full and competent engineering services to handle any, and correct all, problems associated with the performance of this equipment. At least one qualified service representative shall be available to render prompt service. All equipment/options are to be factory installed. If the equipment/options are not available for factory installation, dealer installed equipment/accessories may be acceptable to meet the specifications. Any component added to the vehicle by the dealer must meet manufacturers approved instructions for additions. The bidder is to specify those items that will be dealer installed. Modifications to the vehicles may be performed by final-stage manufacturers only if they are certified by National Highway Traffic Safety Administration and registered to manufacture or alter vehicles in accordance with the Code of Federal Regulations, Title 49, Parts 567-568. In addition, all modifications must be in accordance with the OEM guidelines for building on an incomplete chassis (i.e., Ford's Quality Vehicle Modifiers guidelines and body builders manual). Due to the critical nature of this product, the requirements of these regulations and standards will be strictly enforced. It is the **Contractor's responsibility to obtain current copies of the regulations for bidding and/or construction purposes**. The contractor is required to provide certification affixed to each vehicle that each unit meets or exceeds all State and Federal requirements as of the date of manufacture. The contractor shall be required to include the unladen axle weights of the vehicle when completely equipped as specified herein and when completely fueled on the affixed certification. A certified weight certificate to show the unladen weight of the vehicle must be provided to Caltrans for each vehicle. The final-stage manufacturer will be required to provide all test data, drawings, etc., relating to the certification of the vehicle as a accessible vehicle. Upon delivery, it shall be the supplier's responsibility to provide any evidence necessary that the product fully meets all requirements of this set of specifications.

INCOMPLETE CHASSIS ALTERATION: If an incomplete chassis is to be altered by a manufacturer to increase the chassis manufacturers stated GVWR, the manufacturer must provide a copy of its letter to the appropriate chassis manufacturer's engineering section requesting approval of its proposed alteration(s) and a copy of the letter from the chassis manufacturer approving of the alteration(s) with the bid. In addition to the alteration approval letter from the original chassis manufacturer, each alteration

must meet those conditions for compliance with pertinent Federal Motor Vehicle Safety Standards set forth in those portions of each original chassis manufacturer's "Incomplete Vehicle Manual" pertaining to each vehicle configuration. In no case shall the chassis be modified to alter the wheelbase.

QUALITY OF MATERIALS: Whenever, under the contract documents, it is provided that the contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured article shall be of the best grade in quality and workmanship obtainable in the market from firms of established good reputation.

TRAINING SESSION (S): The Contractor, at their expense, shall provide qualified factory authorized service representatives to provide training for operators, mechanics, and parts personnel. The training shall consist of a combination of classroom discussion and/or audio-visual aids and hands-on operation for the operators. When three or more vehicles are purchased the training will be provided at the address of the procuring agency. When less than three vehicles are purchased the training class may be held at the ship to location. If multiple agencies are included on the purchase order a training facility must be used that is large enough to adequately train and deliver the vehicles for the agencies listed on the purchase order. The training session shall provide the following information:

a. Operation of the bus/minivan.
b. Review of maintenance schedule
c. Lift/ramp operation and maintenance
d. Air conditioning maintenance
e. Warranty procedures manual (coverage and reimbursement)
f. Specialty options information
g. Wiring schematic
h. Driver operated controls
i. Occupant restraint and securement system

INVOICE PAYMENTS: Manufacturers invoice(s) submitted to the agency identified on the Purchase Order for payment must include the tax exemption for handicapped equipment (California Revenue and Taxation Code Section 6394.4).

TIRE TAX: As a result of Senate Bill 876, effective January 1, 2001 there is a new Tire Tax that applies to new tires on new and used vehicles when those vehicles are leased, rented, or sold. Specifically the fee applies to new tires provided with

- A new or used motor vehicle (including spare tire)
- New or used construction equipment, or
- New or used farm equipment

When a vehicle is sold with new tires, the fee is due upon the retail sale of the vehicle. This new fee will be added to the invoice for all vehicles sold under this contract.

SPECIFICATIONS
FOR
Paratransit Bus

2.0 SCOPE

2.1 The basic vehicle, both chassis and body, must be a current year factory production cutaway model that is catalogued by the manufacturer and for which manufacturer's published literature and printed specifications are currently available.

2.2 This specification is intended for use in the purchase of a complete vehicle unit and all equipment and accessories necessary for its operation. All parts, equipment, and accessories shall be completely installed, assembled and/or adjusted as required. Each unit is to be equipped with a right side mobility aid lift and door.

3.0 APPLICABLE STANDARDS, LAW AND REGULATIONS

3.1 The following standards, law and regulations of the issue in effect on the date of the Invitation for Bid form a part of this specification to the extent specified herein. The bus is required to meet all regulations, standards and laws including revisions, at time of bus acceptance.

- Federal Motor Vehicle Safety Standards (FMVSS)
- Code of Federal Regulations, Title 49, Chapter V-National Safety Bureau
- California Code of Regulations (CCR), Title 13
- Americans With Disabilities Act (ADA) Accessibility Specifications for Transportation Vehicles, 49 CFR, Part 38, Subpart B
- California Vehicle Code
- California Health and Safety Code
- California Air Resources Board Regulations
- OEM Body Builders Standards and Guidelines
  National Fire Protection Agency Regulations 52

3.5 VEHICLE TYPES:

Vehicles shall conform to the requirements of the following table:

VEHICLE TYPE	I	II	III	IV	V
SPECIFICATIONS	Small Bus	Medium Bus	Large Bus	Minivan	Conversion Small
Number of Wheelchair Positions	2	2	2	2	2
Lift Position*	Front or Rear	Front**** or Rear	Front or Rear	Ramp	Front**** or Rear
Minimum Number of Ambulatory Seat Positions with lift placement in: Rear**	8	12	16	5	12
Minimum Gross OEM Vehicle Weight rating in lbs.	12,300	14,050	14,050	5,357	14,050
Wheel Base (Inches)	139	158	176	120	158
Minimum Entrance Door Height (Inches)	72	75	75	56	75
Minimum Clear Entrance Door Width (Inches) with rear lift	27***	30	30	30.5	30
Minimum Engine Size (Liters)	5.4L	6.8L	6.8L	3.4L	5.4

V Conversion Large
2
Front or Rear
16
14,050
176
75
30
5.4

* Rear indicates a lift position behind the rear axle.

** Front lift positions must be made available for Types I, II and III at no additional charge. The minimum number of seat positions must be made available at the same price as a rear lift. The specific floor plans will be decided between the purchaser and the successful bidder. Seat credit must be given for floor plans chosen that reduce seating capacity or plans that substitute optional seating for standard seating.

*** 25" minimum with a front lift on Type I only.

**** Front lift will require flat floor option on Type II Bus

OEM – Original Equipment Manufacturer (First Stage Manufacturer)

***** - See Attachment A Page 20

Indicate a yes or no on the lines provided in regards to your conformance to the specification items.

4.0 SPECIFICATION REQUIREMENTS

These specifications apply to all components of vehicle Types I through IV unless specifically stated within specifications.

4.1 VEHICLE LOADING: In no case shall the vehicle GVWR or the front or rear gross axle weight rating (GAWR) or any components therein, exceed the OEM Chassis rating, when the vehicle with all options installed is fully loaded with passengers 68 kg (150 lbs.) per ambulatory passenger and driver, and 113 kg (250 lbs.) per mobility aid passenger, seated in the locations designated and offered. A weight distribution schematic and loading calculation must be shown for each floor plan and submitted with bid for each floor plan offered. Loading calculations must be made with full tanks of fuel. _____

4.2 ENGINE: California approved gasoline electronic fuel ejection (EFI) fuel management system. The engine package shall not be modified from the original equipment manufacturer (OEM) and be the largest available for the chassis. _____

4.3 TRANSMISSION: Minimum three-speed automatic transmission incorporating an OEM installed air to oil type auxiliary transmission oil cooler and filler extension neck for adding fluid. _____

4.4 BRAKES: Dual hydraulic power-assisted system with disc-type brakes on the front wheels and drum or disc-type on the rear wheels. A hand or foot operated parking brake shall be supplied with a warning light on the dashboard. _____

4.41 Vehicle accident avoidance center mounted LED red brake light, 51 mm X 152 mm (2" X 6") horizontally mounted located on the center line of the bus **above the rear window.** _____

4.5 SPRINGS: The front and rear springs shall have a ground load rating equal to or exceeding the GVWR of the vehicle. Helper spring, (**Shim**) or comparable method that is recommended by the OEM, shall be installed on the lift side of the vehicle to keep the bus level. _____

4.6 SHOCK ABSORBERS: Each chassis shall be equipped with front and rear, heavy-duty, double-acting gas filled shock absorbers, the highest rating available from the OEM. _____

4.7 STEERING: Each vehicle shall be equipped with OEM power-assisted steering. Steering shall incorporate an OEM factory installed tilt wheel feature and cruise control. _____

4.8 WHEELS: Each vehicle shall be equipped with seven matching steel-disc wheels. The rated capacity shall equal or exceed the GVWR of the vehicle. Rear dual wheels will have a valve extension installed to the outside on each set of rear wheels to check and fill air pressure. _____

4.9 TIRES: Seven OEM steel-belted radial ply tires of equal size and rating. The combined load rating of the tires shall equal or exceed the GVWR of the vehicle. The spare tire shall be installed under the vehicle.

5.0 AXLES: The sum of the front and rear axle ratings shall equal or exceed the GVWR of the vehicle. The rear axle shall be single-speed type.

5.2 ELECTRICAL: The electrical system shall be a 12-volt system. All electrical accessories except the radio, lights, and mobility aid lift must be wired through the ignition, and must shut off when the ignition is shut off. A wiring diagram must be submitted upon vehicle delivery that will match the as-built wiring for each vehicle. The fuse box must be properly labeled to identify each circuit with a corresponding label identifying the function attached to the fuse box cover. Mating harness and harness connectors shall use matching wiring and coding.

5.21 Wiring and Switches: All switches and wiring circuits shall be protected with either fuses or circuit breakers. All fuses and circuit breakers shall be labeled for identification and installed in one central location with a cover (metal or plastic). The OEM Chassis electrical protection may not be altered or modified in any way. All contractor-installed switches shall be of heavy-duty design. No switches are to be installed on the engine cover and no electrical, stationary or mechanical device may block the removal of the engine cover inside the bus. All electrical terminals shall be heavy – duty, pressure - type terminals. Wire connections shall be crimped with air - craft type crimps. All terminals shall be of the full ring type, sized for the terminal screw or stud. All wire terminals exposed to weather must be weather protected by heat shrink tubing.

5.22.1 There shall be no exposed wiring inside the vehicle. All wiring must meet SAE standard requirements. All electrical wiring shall be automotive stranded and shall be color, and number coded with a schematic showing function code. No wires of the same color, number or function code in the same loom or harness. All harnesses that are added to the vehicle will be secured to the frame at a **maximum** of two feet intervals. Plastic wire ties are not acceptable. Added P-Clamps will be made available for appropriate support/protection as deemed necessary by the state. All wires or harness which pass through holes or by sharp edges shall be ran through loom or rubber grommets.

5.23 CHARGING SYSTEM: The vehicle charging system will use an alternator of 12 volt potential having the largest charging capacity available from the Original Equipment Manufacturer (OEM).

5.24 BATTERIES: Chassis OEM dual, maximum capacity, batteries shall be provided. Provisions shall be made to charge the auxiliary battery from the engine alternator. A locking weather protected sliding type battery box equal to Kwikee part #905708 for the auxiliary battery shall be installed on the curbside behind the passenger door **with stainless steel bearing slides** that provides for a latched tray to hold the battery in place and at a safe distance while the battery is being serviced. Battery cables installed in place of chassis manufacturer's battery cables shall be a continuous run

Batteries (Cont)

and sized to match the electrical system's maximum current draw. For all ground wire connections, paint or foreign material be removed and a coating of dielectric material applied to the cleaned surface where each grounding cable attaches. _____

5.3 FUEL TANK: Fuel tank(s) shall be a minimum of thirty-five (35) gallon capacity from the OEM chassis manufacturer. The chassis OEM fuel system shall not be modified and be fully compliant with California Air Resources Board standards. _____

5.4 INSTRUMENT PANEL: Each vehicle instrument panel shall be equipped with at least the following:

a. Ammeter or voltmeter _____
b. Oil pressure gauge _____
c. Fuel capacity gauge _____
d. Engine temperature gauge _____
c. Speedometer _____
f. Emergency brake warning light _____

5.41 The instrument panel shall have lamps sufficient to illuminate all instruments. All instruments shall be accessible for maintenance and repair and shall be mounted so that each instrument and all indicator lights are clearly **labeled** and visible to the driver. Lights in lieu of the listed gauges will not be acceptable. Decals or Dymo Labels are not acceptable. _____

5.5 Back-up alarm connected with back-up lights to produce an intermittent sound to warn others while bus movement is in reverse. _____

5.51 Echovision, Hindsight 20-20 or equal, rear obstacle detection system (three stage variable tone) mounted on the rear of the vehicle per manufacturers recommendations and reinforced with mounting plate. Sensors shall not be mounted to rear bumper. _____

5.6 BODY MODIFICATIONS: All modifications shall comply with the FMVSS. The Vendors must be certified by the National Traffic Safety Administration to manufacture or alter vehicles in accordance with the Code of Federal Regulations, Title 49, Parts 567-568. On "cutaway" conversions added bodies must be securely fastened to the basic vehicle structure and bolted securely through chassis rail flange at floor and with added reinforcing plates or comparable method. Method of attachment must conform to chassis OEM body builders' requirements. Attachment through bus side rails is not allowed. Welded securements to the basic vehicle structure are only acceptable in areas in front of the front suspension spring hanger and to the rear of the rear suspension spring hanger. No other welded securements to the basic vehicle structure will be acceptable. _____

5.7 STRUCTURE: The vehicle body shall incorporate a welded steel or aluminum body frame or shall be constructed to provide maximum protection to passengers in case of rollover accident or a crash accident to the side or rear of the bus. The inside and outside body panels should be fabricated of contoured steel, fiberglass, fiberglass reinforced plastic with resin-hardened honeycomb, or aluminum. The frame shall be

Structure (Cont)

attached to the understructure and securely attached to the chassis so that the entire vehicle will act as one unit without any movement at the joints. The entire unit shall be adequately reinforced with structural steel to carry the required loads and withstand road shocks. **The entire frame structure of bus body and attaching members shall have zinc chromate applied prior to mounting the bus body.** _____

5.71 Roof Construction: The roof construction shall be of sufficient strength to prevent vibration, drumming or flexing. The roof is to be designed to prevent pooling of water on the roof. _____

5.72 The entire unit shall be adequately reinforced and shall meet requirements of FMVSS 220, School Bus Rollover Protection. A current certification must be furnished with the bid. The test results shall not be more than two (2) years old on the production model bid unless the structure has not been significantly modified as defined by 49 CFR 665. _____

5.73 All exterior seams shall be constructed to shed water without leaking into the vehicle. In no case shall sealing of panels be dependent on caulking alone. All exterior joints and seams shall be protected by zinc chromate caulking, butyl rubber tape, or approved (by the State) material. No water leaks in the body will be acceptable. _____

5.74 The body shall be free of cracks, dents, defects or physical damage. _____

5.8 SEATING

5.81 Passenger: All passenger seats shall be individual modules similar to C.E. White ADA-35, Freedman Feather Weight Mid/Hi, or equal, one or two position bench type modules of not less than 17.5 inches in width. All seats shall be track mounted for easy removal, **forward facing** and have an individual cushion and equipped with folding back molded U. S. Arms, or equal, aisle armrest. All back cushions shall be contoured to provide full lumbar support. All seats shall be covered with heavy duty fabric (minimum double rub of 250,000) or vinyl upholstery, not less than 1.134 g (36 oz.) per running yard full width 137.16 cm (54" wide), color coordinated with the interior vehicle color. Upon request, the Contractor shall submit a sample of the upholstery and cushion material to the State for approval. All seating shall meet the following requirements:

a. All applicable FMVSS requirements. _____

b. Complete White Book testing. _____

c. Cushions shall meet Federal Transit Fire Safety Practices for Transit Bus and Van Materials using chestnut ridge, safeguard XL, dual compression 1" high medium and 1" firm foam for the seat bottom and safeguard high medium for the seat backs. _____

d. Cushion and seat cover shall be of the slipcover type, removable and replaceable without removing the entire seat. _____

Seating (Cont.)

e. Passenger seat belts shall be provided for all passenger locations. A minimum of 1.5 m (60") in length. One .61 m (24") belt extender provided with each vehicle. The short end of the belt shall be placed on the aisle side of the seat and not be able to touch floor when not in use.

f. All exposed metal surfaces shall be powder coated.

g. **All seats shall have not less than 68.58 cm (27") hip to knee room spacing between seats.** All seats shall have a minimum cushion depth of 43.18 cm (17"), and a thickness of not less than 63.5 mm ($2\frac{1}{2}$ ").

h. A one-piece filler shall be provided in tracking between seat placements.

i. The aisle width between seats shall not be less than 38 cm (15"). This width must be maintained with any optional seat chosen as well. There shall not be a mobility aid position blocking the aisle or directly in front of the mobility aid lift except when their is a rear lift. Random movement to any seat position for ambulatory passengers must be maintained.

j. **A molded energy absorbing grab** handle shall be provided at the top of each forward facing seat position and be as wide as practical. The diameter of the grab handle shall be no less than 3.175 cm $1\frac{1}{4}$" and no greater than 3.8 cm ($1\frac{1}{2}$ ").

k. The Bidder shall provide floor plan / seating arrangement drawings, which are to scale and meet passenger-seating requirements. Drawings, at a minimum, shall show the location and dimensions of all seating positions, drivers position, aisles, doors, modesty panels, stanchion, grab rails, tie down locations, and other passenger assists. In addition, all major body interior dimensions must be shown. Proposed seating arrangements plans must be approved by the procuring agency prior to production.

l. Submittal of FMVSS 207 and 210 tests for all seats installed with the seat belts attached to the seat frame. The test must be conducted with the seats mounted in the bus being bid. Detailed seat installation instructions and **test data must be made available to the State upon award of the contract and prior to acceptance of first article.** This test is required for all seats, including optional seats installed over the wheel wells, that buyer may choose.

5.82 DRIVER SEAT: A mid back bucket-type driver's seat with mechanical reclining back rest, adjustable headrest, four-way adjustable lumbar (in-out & up-down) adjustable black molded flip-up right hand armrest, OEM seat belt and shoulder harness. The seat cushions shall include the FTA foam referenced in 5.81(c). Upholstery shall be color coordinated with passenger seats.

5.9 FLOORS: The floor overlay shall have a minimum of 1.59 cm (3/4") 7 ply APA certified exterior grade plywood of C-C plug grade securely fastened to the cross sills. All edges to be properly sealed for moisture.

5.91 FLOOR COVERINGS: The aisle, entrance, and step tread areas shall be covered (in one piece) with R.C.A. .48 cm ($\frac{3}{16}$ ") thick wide ribbed, marbleized charcoal in color, nonskid-type transit rubber flooring. All other areas shall be not less than .3175 cm ($\frac{1}{8}$ ") thick of the same type except it may be ribbed or smooth. All step edges shall have a band of bright contrasting color running the full width of the step. The floor covering shall be butt joined without gaps and securely cemented to the plywood floor with a waterproof adhesive.

5 REAR EMERGENCY EXIT: The rear emergency window shall be large enough so that in conjunction with the rear view mirrors, blind spots are not created. If vehicle is equipped with rear door as an option, rain molding shall be installed over the door(s). Seat backs shall not intrude in required emergency exit window or door openings. Low back seats shall be use on rear wall when raised floor option is chosen.

6.1 ENTRY DOOR: The vehicle shall be equipped with a single front entrance door or a two-section door equipped with 5.08 cm (2") elastomeric material on each section that overlaps a minimum of 3.81 cm ($1\frac{1}{2}$ ") to form a tight seal. The height and width of the entry door shall be as specified in section 3.0. A rain molding shall extend over the doorframe to prevent water intrusion. The operation of the entrance shall be manually controlled from the driver's position. The entry doors shall open to a minimum of 90 degrees. The door glass shall be see-through, tinted (AS-2) safety glass.

6.2 ENTRY STEPS: The front passenger steps and step well shall be heavy-duty welded steel, minimum 14 gauge, with adequate reinforcement to prevent deflection more than .635 cm ($\frac{1}{4}$ ") under a 136 kg (300 pound) load placed on an area 20.32 (8") wide on the center of the step. Upon removal of the load, this step will rebound to its original dimension. A standee line is required.

6.21 The individual step risers shall be a maximum of 24.13 cm (9.5") in height with step tread a minimum of 21.6 cm (8.5") deep. The bottom step tread shall not exceed 33 cm (11") from the ground unloaded. The stepwell shall incorporate lights to illuminate the step tread area when the entry door is opened. A three-step entry is allowed only in a Type II with a front lift or if chosen as an option.

6.3 MODESTY PANELS, STANCHION AND HANDRAILS: An entry door modesty panel and stanchion post shall be installed at the left rear of the stepwell and in front of the curb side row of seats. A stanchion with modesty panel to rear of front mounted lift is required when a front lift is selected and behind driver. Stanchions shall be constructed from the floor to the ceiling. The lower 76.2 cm (30") portion shall be constructed of a gray Formica laminate, or equal, with plastic edge molding, the color to match the interior. A 25.4 cm (10") handrail shall be installed on both sides of the entry door made of 3.175 cm (1.25") 304 stainless steel that can be used by passengers standing at ground level to aid in boarding the bus as well as those passengers that are deboarding the bus. The handrail must be able to be used continually for help in boarding and deboarding the bus. An overhead grab rail using 1-1/4" diameter 304 stainless steel is required on the drivers side of the vehicle to run the full length of the available seating. All stanchions and handrails shall be securely fastened into structural members at all mounting points. A smoked plexiglass panel, 3/8" thick shall be provided behind driver from top of driver's seat to within 6" of bus ceiling. Panel must not impair driver's seat adjustments. Panel may be incorporated into stanchion and guardrail behind driver and must provide cutout area for handhold and be shock mounted to prevent rattle. Cutout area for handhold must have no sharp edges and all corners shall be radiused.

6.4 INTERIOR PANELING: All interior walls shall be paneled, including doors. All panels shall be the same color and coordinated with the interior colors of the vehicle. All interior panels may be made of scuff-resistant, vinyl-coated aluminum, textured paint on steel, or laminate/FRP finished material.

6.5 WINDOWS: All windows, except the windshield, rear and doors, shall be egress transit type or a top T-slide panel type, a minimum of 780 square inches. All side windows shall be top vented to allow for ventilation and provide a clear view to the outside from each seat position. Window(s) shall be installed in the double or single door(s) directly behind the front passenger entrance door on the curbside of the vehicle. Caulking around windows shall be used only as a seal, not to make up for body defects or out of tolerance window openings. All rear and passenger glass is to be tinted to a maximum of 31% light transmission in the passenger compartment. A steel plate adequate to support shoulder straps anchorages must be installed above the windows.

6.51 Placement and installation of the windows shall not diminish the structural integrity of the vehicle. Structural reinforcement shall be added to compensate for the reduced structural rigidity. All windows, including emergency exit window, shall comply with the FMVSS 217. There shall be at least one each minimum emergency exit window on each side of the bus. Drivers door and entry door shall not be considered as an emergency exit.

6.6 INSULATION: Equivalent to 3.81 cm (1.5") fiberglass shall be installed in the roof, rear wall, front and rear caps, side walls and extended door sections. If additional insulation is necessary to meet this requirement the insulation shall be glued to the chassis body to prevent sagging. The insulating material of the body and sidewalls shall be of sufficient thickness to contact the inner and outer walls, insuring positive

Insulation (Cont.)

vapor barrier (equivalent to 38.1 mm) fiberglass. Insulation shall comply with all Federal requirements and shall pass the testing requirements specified in the Federal Transit Administration (FTA) Recommended Fire Safety Practices for Transit Bus and Van Materials Selection.

6.7 PAINT AND TRIM: Exterior surfaces shall be properly cleaned and primed as required, dependent upon the paint used. Painted surfaces shall be impervious to diesel fuel, gasoline, and commercial cleaning agents. Paint shall be a high quality acrylic **white** enamel that matches the OEM paint scheme (non fiberglass body). Two 13 cm (5") transit style stripes running the full length of the vehicle shall be installed on each vehicle (**See diagram 1).** Color options for the stripes must be made available at time of bid award. The entire vehicle is to be painted the same color.

6.8 FRONT AND REAR CAPS: The exterior front and rear caps must be of solid one-piece reinforced molded fiberglass covered with a jell-coated exterior surface.

6.9 UNDERCOATING: The entire underside of the body including floor members, side panels below floor level (if metal), and fender wells shall be undercoated, at the time of manufacture, with a nonflammable resin type polyoleim or equivalent equal to Tectyl 121-B. All openings in the floorboards and firewall shall be sealed.

6.91 WHEELHOUSING: The wheel housing shall be constructed of a minimum 14 gauge galvanized steel and provide ample tire clearance during all operating conditions. Fenders and splash aprons (underskirt) of durable construction shall be provided so as to provide maximum deflection of the wheel splash. There shall be sufficient wheel well clearance for snow chains. Front and rear tire mud flaps are required.

6.95 AIR CONDITIONING: Type I vehicles require an integral front air conditioner and an auxiliary rear air conditioner with dual compressors, capable of producing 55,000 BTU equal to Carrier A/C model 442 Max or Trans/Air model 712. Type II and III vehicles require dual compressors capable of producing 67,000 BTU equal to Carrier A/C model 553 Max or Trans/Air model 733. All controls for both air conditioners shall be located for ready access by the driver. Cooling shall be specified in BTU at 100° F. ambient temperature. The condenser for the air conditioner shall be skirt mounted and shall have a minimum of two .25 m (10") fans cooling the condenser with automatic reset. The air conditioning system shall use refrigerant R134A. The complete air conditioning system shall be warranted for a minimum of two years for parts and labor from the time of vehicle acceptance. A label must be placed in the engine compartment detailing manufactures name, refrigerant type and quantity, compressor oil type and quantity. The evaporator and condenser must be matched to the compressor as per manufacturers recommended installation instructions. All A/C and heater hoses shall be adequately supported with P-Clamps at a maximum spacing of 24".

6.0 HEATER: Each vehicle shall have a front mounted integral high output heater and a rear floor high output auxiliary heater mounted behind the rear wheel housing or under a rear seat. The front heater shall incorporate windshield defrosters. The rear heater

Heater (Cont.)

shall be equipped with two brass ¼ turn valves that are clearly marked on the outside of the bus as to its location. The valves shall be located below or behind the driver's entry step well. The total output of the auxiliary heater system shall not be less than 40,000 BTU. The placement of the heater must be approved by the procuring agency.

7.01 Heaters are to be controlled by two individual three-position switches (off, low, high). All controls for both heaters shall be located for ready access by the seated driver. All hoses, drains and wiring must be covered and adequately supported with plastic/rubber coated steel clamps secured at a minimum of two-foot intervals. All heater hoses will be silicone or approved equal. Combustion heaters are not acceptable.

7.1 MOBILITY AID LIFT: At buyers option, a Braun series 917 IB or Ricon S-2005 series mobility aid lift with bridging feature will be installed in front of the rear axle or behind the rear axle at the purchaser's option and without additional charge. The lift shall incorporate a positive locking mechanism to prevent drifting from the stowed position.

7.11 DESIGN LOAD: The lift shall be attendant operated, fully automatic, with a minimum tested net static load capacity of 340 kg (750 pounds) with gravity down. All working and non-working parts shall have a safety factor, as specified in the ADA Accessibility Specifications, Section 38.23(b)(1).

7.12 LIFT PLATFORM: The lift platform shall have a minimum clear width of .838 m (32") at the platform, a minimum clear width of .838 m (32") measured from .05 m (2") above the platform surface to .838 m (32") above the platform and a minimum clear length of not less than 1.22 m (50") measured from .05 m (2") above the surface of the platform. The platform surface shall be free of any protrusions over .64 cm high and slip resistant.

7.13 This lift platform shall permit boarding of a mobility aid in either a forward or backward position and shall accommodate standees.

7.14 The lift platform shall meet the requirements of the ADA Accessibility Specifications, Section 38.23(b)(9) & (10), Platform Deflection and Movement.

7.15 PLATFORM BARRIER: The lift platform shall have an automatically activated anti-roll barrier on the loading-edge (outer end). This anti-roll barrier shall have a minimum height of 10.2 cm (4") and a maximum slope of 1:8, measured on level ground for a maximum rise of 7.7 cm (3"). This barrier shall automatically pivot downward, becoming an exit or entry ramp whenever the lift platform contacts the ground. All scars on the vehicle, due to mounting of the lift assembly, shall be painted. The 5 cm (2") outer barriers must be painted with a reflective white or yellow paint on the outside to match the roll barrier and to increase visibility of the platform when deployed. Reflective tape on the sides in lieu of paint, must be approved by Caltrans.

7.16 MOUNTING OF THE MOBILITY AID LIFT ASSEMBLY: The mobility aid lift shall be installed in accordance with the lift manufacturer's recommendations and requirements.

7.17 All attachments of the lift assembly to the vehicle shall be done through structural support members. Bolting of any part of the lift assembly directly to the vehicle sheet metal walls will not be acceptable.

7.18 POWER OR EQUIPMENT FAILURE: The lift platform shall have an automatic stop-and-hold mechanism to prevent the platform from free falling or folding any faster than 30.48 cm/second (12 inches/second) in the event of a power failure or equipment failure during the raising and lowering modes.

7.2 LIFT HANDRAILS: The lift platform shall be equipped with handrails on both sides, which move in tandem with the lift, and which shall be graspable and provide support to standees throughout entire lift operation. Handrails shall not interfere with mobility aid or mobility aid maneuverability when entering or leaving the vehicle. The handrails shall comply with ADA Accessibility Specifications, Section 38.23(b)(13).

7.3 LIFT ENTRY DOOR: The side lift entry door shall provide a minimum clearance of 1.4 m (56") between the top of the door opening and the raised lift platform, or highest point of a ramp for Type I and 1.7 m (68") for the for Type II and III.

7.31 The lift entry door(s) shall have windows with laminated or tempered safety glass set in neoprene or similar retention molding. The windows in the door shall be tinted.

7.32 A positive factory-installed gas shock to assist in maintaining opened or closed position of door(s) shall be installed to hold the lift entry door open while the lift is in use. Lock shall be stainless steel paddle-type handle or Caltrans approved and incorporate top and bottom rotating cam latches with a standard key lock.

7.33 An automatic curb illumination lamp or lamps shall be located inside the lift doorway and other passenger loading areas.

7.4 CONTROL STATION: The mobility aid lift system shall have one control station capable of controlling all lift functions. The control switches on the lift control station shall have clear, legible, permanently attached labels identifying their function. Decals will not be allowed. The control station should be conveniently mounted to the lift door with stainless steel bracket and within easy reach of mobility aid lift operator. The control station cord shall be .3048 m (12") in length beyond the length of an extended platform and have removable twist type connection. The final routing and securement of the cord must be approved by Caltrans.

7.5 POWER REQUIREMENTS AND ELECTRICAL SYSTEM:

7.51 The main power cable to the lift hydraulic pump motor shall be of the proper gauge and fully enclosed in a loom. The cable shall be properly supported throughout the vehicle with insulated straps and mechanically attached to the vehicle body.

7.52 The lift shall be designed so that it can only be operated when the automatic transmission is in the park setting position. An additional ground #0 cable shall be installed from the engine to the frame. Lift shall be grounded to OEM frame. Cable size to equal power cable.

7.53 The lift electrical system shall be protected by a heavy-duty circuit breaker installed per manufacturers instructions with master control switch located on the dash and clearly labeled.

7.6 CONTROL INTERLOCK: The controls for the lift shall be interlocked with the vehicle emergency brakes and transmission to ensure the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks are engaged.

The interlock shall be a fully automatic, solid state, microprocessor-controlled unit (Ref. Intermotive ILIS 501) or approved equal capable of self-diagnosis. Interlock shall utilize an LED display panel to show subsystem status. Interlock must prevent driving the vehicle with parking brake left on. Interlock must meet ADA Title 49 Lift Interlock requirements.

7.7 PAINTING, DECALS AND MONOGRAMS: All signs required by State and federal law shall be affixed to each vehicle exterior and interior.

7.8 PARTS BOOKS, MANUALS AND DRAWINGS: The following shall be provided at time of delivery. The information shall be organized in a three ring binder format with each section clearly identified. A draft copy must be available for State review and acceptance review prior to completion of the first contract bus.

7.81 A complete set of operating instructions, troubleshooting guide, inspection and service guide and detailed manufacturers parts list.

7.82 A complete "as built" electrical wiring diagram covering all electrical equipment and electrical circuits installed, complete with wiring codes for **each** vehicle ordered.

7.84 All manuals for the bus accessories, to include complete parts guide, and equipment to include mobility aid lift, air-conditioning system, tie downs, seating, heater, etc.

7.85 The Contractor shall have available complete bus maintenance manuals to include the engine, transmission and OEM chassis as well as a complete parts manual for each component. The contractor shall keep the manuals up-to-date and available to the Buyer for a period of three years after the date of acceptance of the buses under the contract.

7.9 TWO-WAY RADIO ANTENNA PREP: Roof access for installing radio antenna with 5/8" I.D. conduit with antenna pull wire terminating behind drivers seat. Access compartment must have a hinged lockable door. Final design and placement must be approved by Caltrans.

8.0 MOBILITY AID SECURITY AND OCCUPANT RESTRAINT SYSTEMS: Each vehicle shall be equipped with forward facing mobility aid securement and occupant restraint system as indicated by Table 1. The system(s) shall be capable of securing a variety of common mobility aid designs and accommodate a wide range of occupant sizes. The Contractor shall provide detailed instructions to include a training video from the securement manufacture for mobility aid placement, tie-down belt operation, and torso belt placement.

8.1 MOBILITY AID SECUREMENT AND OCCUPANT RESTRAINT SYSTEM(S), including all attachment hardware and anchorages, shall meet or exceed the following requirements:

* 30 mph/20 G Impact Test criteria per SAE J2249
* 36 CFR Part 1192 and 49 CFR Part 38 and 571 (ADA)
* All applicable Federal Motor Vehicle Safety Standards (FMVSS), as amended
* California Code of Regulations, Title 13

8.2 MOBILITY AID SECUREMENT SYSTEM: Each vehicle shall be equipped with the number of securement systems as specified in table 1.

8.21 Each securement system shall consist of four (4) adjustable, securement strap assemblies which attach to the structural frame of the mobility aid at four separate points, and anchor into flanged L track with end caps on the vehicle floor at four separate points. The securement system shall be Q'Straint Securement System model QRT Q 8100-A1 with Part number Q-8100-Al-H-L or approved equal. Retractors MUST be AUTOMATIC SELF-LOCKING and SELF-TENSIONING. The Q Straint 5001-T and Kinedyne FE500 Series systems having overcenter buckles for the rear two tie downs and cam style for the front two points of securement. shall also be made available upon request at no additional cost. The securement system shall be installed according to manufacturers instruction with detailed installation instructions included in services and operatrion provided to purchaser and bus inspectors. Any deviation from track installation will require written approval from securement manufacturer that the installation will not alter required testing in Section 8.1.

8.22 The system anchorages and /or track shall be recessed and attached with flush screws in accordance with the requirements of the system manufacturer. A copy of the manufacturers installation instructions must be available to Caltrans upon request.

8.3 OCCUPANT RESTRAINT SYSTEM: For each mobility aid securement system installed in the vehicle, a corresponding occupant restraint system shall also be provided. The occupant restraint system shall consist of adjustable lap (pelvic) belt and a shoulder (upper torso) belt, and shall meet all applicable Federal Motor Vehicle Safety Standards (FMVSS), as amended.

8.4 SECUREMENT/RESTRAINT SYSTEM ACCESSORIES

8.41 A web cutter for emergency use shall be provided with each vehicle.

8.42 One torso pad approximately 20 cm X 30 cm (8" X 12") with thickness of approximately 2.5 cm (1") and belt shall be supplied to secure mobility aid users while riding the on the mobility aid lift.

8.43 STORAGE CONTAINER: A secured container shall be provided to store straps, pads and assemblies. The container shall be recessed in the center front cap portion of the vehicle or positioned over the drivers area if the front cap is used for destination signage with a hinged lockable door. The container must be sealed and not have any exposed wires, protrusions or sharp edges. Caltrans must approve final design.

8.5 ADDITIONAL EQUIPMENT: The following shall be furnished and installed in each unit. The mounting of any of the following items shall not interfere with passenger entry or exit:

(1) Rear antiride bumper.

(2) One 5-pound ABC fire extinguisher conveniently mounted.

(3) A minimum 16-unit First Aid Kit meeting the requirements of Title 13, California Code of Regulations (13 CCR) Section 1243.

(4) Three bi-directional emergency reflective triangles that conform to the requirements of FMVSS No. 125.

(5) Sufficient interior lighting to illuminate the driver and passenger entry area and the interior aisle. The switch for these lamps shall be mounted in the dash and labeled.

(6) A fully adjustable 4"X 8" (Reference Rosco Item # PR-48) passenger view mirror mounted just above the windshield over the steering wheel area. Two hinged exterior rear view mirrors of not less than 70 square inches. Convex rear view mirror shall be provided for right and left hand mirrors (minimum size is 3"). OEM mirrors mounted on the windshield shall not be removed.

(7) An AM/FM cassette radio with two speakers and antenna installed with an additional two speakers placed in the passenger area.

(8) Rear 4" LED, voltage regulated, recessed signal lamps for stop and turn signals

(9) Exhaust: The tailpipe routing shall be configured so that it runs adjacent to the frame rail located as close to the frame rail as possible with a turn down at the end of the pipe. The intent of the routing is to minimize the potential crushing of the exhaust pipe by the bumper. Final configuration of exhaust will be determined at the preproduction meeting.

Attachment A

2.1 (a) CHASSIS AND PACKAGES TYPES V AND VI: The chassis bid shall be OEM Ford E-450 CNG Cutaway with the Type V having a 158" wheelbase and the Type VI having a 176" wheel base. Each bus, small and large shall be bid with a minimum of (4) four OEM CNG cylinders each.

4.1 (a) PAYLOAD WEIGHTS: An additional weight detail breakout listing of engineering quality must be provided with the bid demonstrating GVWR compliance that separately lists **a)** the conversion base vehicle weight, **b)** the specified passenger payload of 12 ambulatory passengers (Small Bus) or 14 ambulatory passengers (Large Bus) with two wheelchair positions, plus driver, the combined weight of all listed options, and **c)** the combined weight of all specified accessories (belts, fire extinguisher, first-aid kit, etc.) in this specification.

4.2 (a) ENGINE California approved dedicated OEM CNG, Compressed Natural Gas engine. The engine shall not be modified from the OEM and shall be the largest CNG engine available for the chassis.

5.3 (a) FUEL TANK A minimum of (4) four OEM CNG cylinders with a 24-gallon (Small Bus) and 28-gallon (Large Bus) equivalent capacity. Operating pressure shall be minimum of 3,600 PSI. Fuel system shall meet FMVSS 303, 304 and NFPA 52

5.3 (b) FUEL TANK Fuel cylinder(s) installed inside the vehicle shall meet the following requirements:

1. FMVSS 303, 304 and NFPA 52 Regulations
2. Cylinder(s) shall be placed against rear wall of bus per OEM chassis manufacturers body builders' guidelines.
3. Cylinders shall be concealed with a bulkhead type of structure that will restrict access by passengers and protect tanks against damage. Rear window visibility shall not be obstructed.
4. The bulkhead and or body structure shall have lockable access doors to allow inspection of system (i.e. cylinders, Valves, Lines, Certification Labels). The bulkhead and or body structure shall allow removal of tank if necessary.
5. Small and Large CNG bus with additional cylinders (inside) shall be offered with front wheelchair lift only.

9.0 TYPE I, II, III OPTIONS

Provide pricing for each of the following options for Type I, II and III:

OPTION 1: SEATING - Optional seating shall match the existing seating in fabric, stitching, foam and design.

a) Folding Seat equal to Freedman Notch Back with top grab handle, armrest, color, fabric and foam to match standard seat specification. _____

b) 34"-36" equal to Freedman's Feather Weight Mid-Hi Flip Seat _____

c) 17"-18" equal to Freedman's Feather Weight Mid-Hi Flip Seat _____

d) Child Restraint Seat
Integrated Child Restraint seat model C. E. White ADA 35, CR/ADA-35/HB, or ADA-17 (or approved equal) for transportation of children up to 60 lbs. Seat must be rigid high back with integrated child harness built into the seat frame. Seat must be seat belt ready and be able to properly secure an infant carrier seat for a child under one year and under 20 lbs. Seat must meet FMVSS Standard 213. _____

OPTION 2: BRAKE RETARDER

A driveline electro-magnetic retarder of ample size shall be installed as recommended by the retarder manufacturer for the vehicle supplied. Retarder activation system shall be the foot control operated type integrated with the brake pedal. _____

OPTION 3:

a) Alternator: Pentex PX-5 alternator. _____

b) Roof Vents: Equal to Transpec Model 1000 six way adjustable _____

c) 8 D Battery _____

d) Additional Mobility aid position(s) with tie downs _____

e) Energy absorbing HELP bumper Front _____ Rear _____

f) Electric Passenger Door _____

g) Mor Ryde Suspension System _____

h) Credit for each seat left out of standard vehicle _____

i) Ricon K2005 Kleerview lift or approved equal _____

Option 4:

Raised floor when necessary to provide additional securement positions. _____

Option 5:

Park Crank Only Module (PCOM) (Ref. Intermotive Part No. PCOM) or approved equal
Allows engine to start only when transmission is in "Park" range _____

DuraTrans Programmable Overdrive Controller (DuraTrans POC) (Ref. Intermotive Part No. DT301) or approved equal _____
Automatically disengages overdrive gear of automatic transmission
Allows for programming of engagement & disengagement for overdrive feature

Option 6: Diesel

Largest OEM diesel available. _____
Engine size _____

Option 7: Additional Tank(s) for CNG buses
Small Bus (158" WB) _____
Large Bus (176" WB) _____

Indicate a yes or no on the lines provided in regards to your conformance to the specification items.

SPECIFICATION REQUIREMENTS

These specifications apply to the Type IV minivan as listed in Table 1, Section 3.5

12.0 MINIVAN- TYPE IV

12.1 CAPACITY: This minivan shall be capable of carrying in one trip at least two (2) ambulatory adult forward-facing seated passengers and two (2) passengers seated in mobility aids, in addition to the driver. The vehicle must be convertible to at least five (5) ambulatory passengers, plus the driver. Conversion to a full ambulatory/mobility aid capacity will be achieved by the use of an "ADA", FTA, and FMVSS compliant center mounted, fold up seat. _____

12.2 ADDITIONAL CAPACITY: An ambulatory passenger capacity that exceeds five (5) is desired, providing all specification requirements are met herein. Should a capacity larger than five (5) be offered, there shall be no additional price increase. No additional bid preference will be given. _____

12.3 MODIFICATION: This minivan shall be made ADA compliant through a modification whereby the vehicle floor area is cut from the engine firewall to the rear most passenger seat and lowered to meet minimum ADA 142.24-cm (56) door opening requirement. There shall be no extrusion to any portion of the vehicle roof in meeting the ADA 142.24-cm (56") door-opening requirement. A manual, fold up mobility aid ramp is to be mounted off of the curbside sliding door, and two mobility aid positions will be provided. _____

12.4 REQUIREMENTS: All labor, parts, materials, and other items used shall be the best quality available in commercial practice.

a) All equipment is required to be new and the latest model in current production. Used, shopworn, demonstrator, prototype, or discontinued models are not acceptable. _____

b) Engineering changes and modifications shall conform to accepted practices of the Society of Automotive Engineers and other professional organizations, which may establish relevant standards. _____

c) The minivan interior and exterior shall be aesthetically pleasing. _____

d) All exposed metal shall be primed and painted. All metal shall be thoroughly cleaned and primed, including welded joints. Metal parts shall be free of dirt and rust. _____

12.5 CHASSIS AND PACKAGES: The model shall be a long wheelbase Chevrolet Venture or Dodge Grand Caravan with OEM option packages that at a minimum contain those items listed in **Attachment "B" Page 39.**

12.6 SUB PACKAGES:

a) Sub Package Listings: The bidder shall provide with the bid a listing, published by the OEM, OEM chassis and packages that contain those items specified in Section 12.5, and Attachment "B", and whatever additional sub-packages are necessary to include the minimum items listed in Attachment B.

12.7 VEHICLE WEIGHT REQUIREMENTS: The Contractor shall certify that all vehicles delivered shall not exceed the Original Equipment Manufacturer's GVWR of the chassis, regardless of the installed options and seating configuration ordered.

a) **List** the Manufacturer's GVWR for the model and packages as specified:

b) Passenger Load Schematic: The bidder shall submit passenger position loading schematics of engineering quality with the bid that show the passenger seat positions. The schematics will show a chart with the ambulatory/ mobility positions for each capacity, the equivalent weights, and complicity with the OEM GVWR and GAWR ratings for the specified vehicle. Passenger Calculations: All weight calculations shall be estimated as 68 kg (150lbs.) per ambulatory and 113 kg (250 lbs.) per mobility aid passenger.

c) Unladen Weight: A copy of a weight certificate from a State Certified scale showing the unladen weight of the vehicle as specified must be submitted with the bid.

d) Payload Weights: An additional weight detail breakout listing of engineering quality must be provided with the bid demonstrating GVWR compliance that separately lists **a)** the conversion base vehicle weight, **b)** the specified passenger payload of at least two rear ambulatory, two middle ambulatory, one front wheelchair, plus driver **c)** the combined weight of all listed options, and **d)** the combined weight of all specified accessories (belts, fire extinguisher , first-aid kit, etc.) in this specification.

e) GAWR Compliance: All required weight breakout listings will also show distribution compliance with the OEM GAWR ratings, front and rear.

f) **List** the Manufacturer's GAWR ratings: Front: Rear:

g) Weight Certificate: The State reserves the right to request a State certified weight certificate, at contractor's expense, for each vehicle equipped as ordered at any time during the build/delivery process. The weight certificate will show compliance with the OEM GVWR with all accessories and options installed.

13.0 ENGINE: California certified, V-6, gasoline engine with electronic fuel injection (EFI), the largest available for the OEM chassis and packages specified. Engine shall be a current production model and match the year of the chassis. _____

13.1 TRANSMISSION: The vehicle shall have an automatic, minimum four (4) speed transmission with automatic over drive. _____

13.2 RADIATOR AND COOLING SYSTEM: Heaviest duty available, with coolant recovery system factory installed; 50-50 mixture of factory specified antifreeze and water. _____

13.3 HOOD: Lock release inside the vehicle, easily identified and accessible to the driver. _____

13.4 FLUID MAINTENANCE: The driver must be able to check and fill/top-off all fluid levels from inside the front hood (and rear hood for rear mounted engines). Dipsticks, filler caps, etc. will be clearly marked for identification using florescent colored tape or coatings. _____

13.5 FLUID LINE PROTECTION: All metal and rubber fluid lines beneath the vehicle that are altered or exposed as a result of floor modification shall be protected from road damage through the use of corrosion resistant covers or shields, where the State determines it is appropriate. All covers and shields shall permit accessibility for repairs and inspections. Final design of covers and shields are subject to approval by the State of California. _____

13.6 BRAKES: The vehicle shall be equipped with a factory Anti-Lock Brake System (ABS). _____

13.7 PARKING BRAKES: The vehicle shall be equipped with the factory OEM parking brake assemblies and dash warning light. Parking brakes shall be properly adjusted to factory specifications upon delivery. _____

13.8 AXLES: The axle capacity rating shall be at least equal or exceed the GVWR of the vehicle. In the event that the GAWR ratings exceed the GVWR of the specified chassis, the GVWR rating shall be the basis for all weight calculations. _____

13.9 DRIVE AXLE ANGLE ALIGNMENT: Bidder must submit detailed documentation that shows how OEM-factory specification front drive axle angle alignment is maintained (i.e. use of spacers, brackets etc.) after lowered floor modification. _____

14.0 WHEEL ALIGNMENT: The front end shall have an alignment prior to final delivery. Documentation of wheel alignment with adjustment data shall be furnished when vehicle is delivered. _____

14.1 WHEEL BASE: The minivan shall have a 302.26 cm (119") minimum wheelbase. _____

14.2 TILT WHEEL AND POWER STEERING: The vehicle will be provided with an OEM tilt steering wheel and power OEM power steering. _____

14.3 FUEL TANK CAPACITY: 75.71 liter (20 Gallon) minimum capacity. _____

14.4 REPLACEMENT FUEL TANK: Tank, fuel and vent lines, and hardware must meet all current FMVSS standards, including FMVSS 301, as well as all current CARB and EPA requirements; documentation from the tank manufacturer is required with the bid. Tank must replicate OEM capacity and shall be fully calibrated with the OEM dash fuel gauge. Tanks shall be treated or coated so as to resist corrosion for the complete applicable warranty period. _____

14.5 SUSPENSION: Vehicle will retain the complete OEM McPherson strut front suspension and components. Rear suspension must be adequate for the payload identified, and vehicle must maintain a level position once loaded to full capacity. The OEM package "Load Leveling and Height Control", load leveling air shock absorbers are required for this specification. _____

14.6 ROAD CLEARANCE: With full capacity load, the vehicle shall be able to clear a conventional public street speed bump without making surface contact with any portion of the vehicle surface, at 10 MPH. _____

a) Ground Clearance: With passengers or driver and with all available options installed, there must be a minimum of 12.7 cm (5") of clearance between the break over angle position of the vehicle exhaust pipe and level ground. _____

14.7 WHEELS: The minivan shall be equipped with five (5) steel wheels, size 38.1 cm (15") minimum. _____

14.8 WHEEL WELLS: Wheel wells shall be OEM. _____

15.0 TIRES: Five identical brand tires shall be furnished. Tires shall be steel belted radials, the size, load rating and the brand as provided by the OEM for the chassis specified. _____

15.1 SPARE TIRE: The spare tire shall be OEM conventional type, mounted inside the vehicle and secured in an easily accessible carrier as approved by the State. _____

15.2 TIRE CHANGING EQUIPMENT: Tire changing equipment, as provided by the OEM, shall include a jack of sufficient strength/capacity, and other tools necessary for changing the mounted tires shall be stored in a compartment/container within the vehicle. Such storage space shall not diminish passenger capacity nor block accessory access. _____

15.3 TIRE CHANGE: Vehicle shall have the necessary configuration and clearance on the frame to allow for the use of the OEM jack in changing the tire. Configuration shall meet or exceed the OEM design, and have provisions to prevent jack slippage. Full instructions on the tire changing procedures and towing of a lowered floor minivan shall be provided. _____

15.4 BUMPERS: Front and rear bumpers shall be OEM, shock absorption type. _____

15.5 ELECTRICAL: Each vehicle shall have a 12-volt electrical charging system as supplied from the OEM.

15.6 WIRING: All electrical wiring shall be automotive stranded copper, of sufficient gauge to handle the load, color coded to match the OEM, with no wires of the same color in the same loom or harness. All harnesses that are modified or added to the vehicle will be secured to the frame at a maximum of two feet intervals with insulated clamps. Plastic wire ties are not acceptable. All exposed terminals and wiring shall be protected from the elements using sealed terminals or heat shrink where necessary. Exposed wires will be wrapped or loomed in corrosion/moisture-proofed material.

15.7 CIRCUIT PROTECTION: All circuits shall be fuse protected and a schematic diagram of engineering quality indicating color and function shall be included with each vehicle. All electrical accessories except the radio and lights must be wired through the ignition, and must shut off when the engine is off.

15.5 ELECTRICAL: Each vehicle shall have a 12-volt electrical charging system as supplied from the OEM.

15.6 WIRING: All electrical wiring shall be automotive stranded copper, of sufficient gauge to handle the load, color coded to match the OEM, with no wires of the same color in the same loom or harness. All harnesses that are modified or added to the vehicle will be secured to the frame at a maximum of two feet intervals with insulated clamps. Plastic wire ties are not acceptable. All exposed terminals and wiring shall be protected from the elements using sealed terminals or heat shrink where necessary. Exposed wires will be wrapped or loomed in corrosion/moisture-proofed material.

15.7 CIRCUIT PROTECTION: All circuits shall be fuse protected and a schematic diagram of engineering quality indicating color and function shall be included with each vehicle. All electrical accessories except the radio and lights must be wired through the ignition, and must shut off when the engine is off.

15.8 BATTERY: Vehicle shall have the heaviest duty available factory installed battery. Battery cables and connectors shall be OEM.

15.9 ALTERNATOR: Shall be factory installed, heaviest duty available.

16.0 HORN: Factory OEM.

16.1 GAUGES: The vehicle shall be equipped with OEM needle or digital type gauges or OEM warning lights. All gauges will be installed in the OEM manufacturer's designated positions within the vehicle dashboard.

16.2 FRONT AND REAR HEATING: An OEM heating/defrosting system with vents front and rear shall be provided. All lines and hoses shall be sufficiently fastened, protected, and insulated to ensure against wear from friction and the elements. The interface to the original system must have no more than two coupling points to minimize the potential for leakage. The lines must be mechanically attached, with "P" Clamps, to the vehicle structure at no greater than 18-Inch intervals and must be

Front and Rear Heating (Cont.)

routed so as not to be exposed to wheel spray and not pass within 2 inches of any part of the exhaust system.

16.3 FRONT AND REAR AIR CONDITIONING: Air conditioning shall be OEM front and rear mounted, with separate fan controls for the front and rear, and OEM roof flush rear ducting. Unit shall use environmentally friendly R134A refrigerant. Conversions shall not impede access to front and rear air conditioning components.

16.4 INTERIOR LIGHTING: Overhead and lower lighting shall be installed in the interior rear of the vehicle that provides not less than two foot-candles of illumination at the entrance ramp area. This system shall illuminate automatically when the vehicle front and sliding doors are open. A manual switch must be available that overrides any timing device on the interior light system.

a) Seat Lights: Additional lighting shall be installed in the lower panels of the vehicle that provides a minimum of two foot-candles of floor illumination for the center and rear seats. Interior lighting fixtures shall be reasonably flush with the interior walls and ceiling to prevent being a hazard to passengers. Additional lighting shall be wired to work off of the OEM interior overhead light switches. All additional lighting must be adequately circuit protected.

16.5 EXTERIOR LIGHTING: Exterior lighting shall be installed in accordance with the Federal Motor Carrier Safety Regulations and the California Code of Regulations, Title 13. All lights shall be sealed from moisture and grounded to the body framing structure. The brake light shall not override emergency flashers or turn signals. An OEM center stoplight, two OEM back-up lights, and OEM running lights shall remain factory installed and complete.

16.6 LIGHT COMPLIANCE: All accessory vehicle lighting will conform to ADA 49 CFR, Part 38, Subpart B.

16.7 STEREO: Shall be OEM AM/FM radio with CD and four factory-installed speakers, 2 front and 2 rear.

16.8 CRUISE CONTROL: Vehicle will have OEM installed cruise control.

17.0 HEADLIGHT ADJUSTMENTS: After conversion, the manufacturer will adjust headlights for proper alignment prior to delivery.

17.1 BODY SPECIFICATIONS: Conversion of a minivan by modifying the existing roof, sidewalls, or floor, shall require the construction of an internal reinforcement of equal or greater strength that does not destroy or reduce the original integrity or strength of the vehicle against impact. All metal components that are added, as reinforcement shall be professionally seam welded, and shall be made corrosion proof through a commercial primer application or the use of stainless steel material.

a) Interior Height: Shall provide a maximum clearance of 152.4 cm (60") at the vehicle center of the interior roof.

Body Specifications (Cont.)

b) Body Length: Shall not exceed 508 cm (201").

17.2 FMVSS TESTING: Documentation showing successful compliance with FMVSS 571.208, 214, 216, and 220 standards for the current model requested is required with the bid.

a) Current FMVSS Documentation: Bidder must submit FMVSS documentation for a "current" production chassis and modification. "Current", for this specification is defined as a chassis that has not undergone a major powertrain, suspension, or structural change; or, a major modification change that would involve conversion structure re-design or a major change in conversion structure materials.

b) State Determination: Based on the definition as provided in Section (17.2 a), the State shall make the final determination as to whether or not "current" FMVSS documentation was submitted by the bidder.

17.3 OEM "PASS THROUGH": Documentation by an engineering associate must be provided that states the reasons for OEM "Pass Through" where claimed in lieu of required FMVSS testing. The State reserves the right to request re-testing if a pass through claim, based on submitted documentation, is deemed inappropriate.

17.4 VEHICLE PRODUCTION:

The bidder shall submit a vehicle modification production work plan with the bid that describes the processes used when OEM vehicle flooring is cut out and accessibility modifications made. The production work plan shall include the method of bracing, type of cutting, welding, and attachments, and reinforcements that would ensure proper alignment and construction.

a) Reinforcement: Any modifications to the floor, roof, or sides shall require reinforcement to prevent vibration, drumming, or flexing.

b) Exterior Panels: Shall be sufficiently stiff to prevent vibration, drumming, or flexing while the minivan is in normal operation.

c) Structural Securement: All points of contact between longitudinal or cross members and other structural materials shall be welded, or bolted with minimum grade 5 zinc plated, cadmium plated, or galvanized fasteners.

d) Insulation: The roof and body shall be fully insulated, OEM is acceptable. Add-on Insulation shall be glued or affixed in such a manner that no sagging or bunching of material will occur.

e) Road Noise: At 60 mph the ambient noise level shall not exceed 70.5 dB measured from the geometric center of the passenger compartment.

f) Fasteners: All metal hardware and fasteners shall be non-corrosive high strength steel. Clamps shall be fully insulated to prevent premature wear.

17.5 MISCELLANEOUS BODY COMPONENTS:

a) Windshield Wipers: Intermittent with dual jet washers. Multiple speed control. _____

b) Windows: The windows for the front driver area and rear passenger area shall be OEM, with the darkest factory tint available. All window glass shall meet established State and Federal safety standards for safety and translucency. _____

c) Rear Window Accessories: The rear window shall have an OEM electric window defogger, wiper and washer. _____

d) Paint: The basic vehicle factory color shall be OEM standard white, with other OEM factory colors to be made available upon request. Vehicle colors with the exception of white are subject to contractor availability. _____

e) Transit Striping or Paint: Where requested, a maximum of two transit stripes up to 7.62cm (3") in width on each side of the vehicle will be installed, colors subject to contractor availability. Where requested, a maximum 15.24cm (6") stripe will be painted on each bottom side of the vehicle, colors subject to contractor availability. The use of vinyl striping will be acceptable in lieu of painted stripes. Reference: "3M Scotchcal, High Performance Custom Striping Tape." _____

f) Rear View Mirror: An interior rear-view OEM mirror with a night driving adjustment shall be installed to afford the driver a view of all passengers. _____

g) Side View Mirrors: Each minivan shall be equipped with OEM exterior left and right side mirrors, the largest available, containing a convex/wide view mirror on the right side. Mirrors shall have electric adjustment capability. _____

h) Sun Visors: Two OEM fully adjustable sun visors shall be provided. _____

i) Sealant, Rust Proofing and Undercoating: All exposed floor attachment seams shall be sealed with a high rated butyl caulk. The entire surface of exterior lowered floor shall have a rust inhibiting coating, such as an epoxy primer base, applied to cover all welded areas, and then a fresh application of undercoating over the entire surface. Undercoating shall comply with current Federal and State flammability standards. _____

17.6 PASSENGER DOORS AND STEPWELLS: The minivan shall have standard OEM driver and passenger front doors; one manual right side mobility aid accessible rear passenger door, with a minimum opening height of 142.24 cm (56"), a minimum usable width of 77.47 cm (30.5"), and the opening bottom a minimum of 22.86 cm (9") above the ground. Door extensions shall be constructed of stainless steel. Both sliding doors shall have a locking mechanism to securely hold doors in open position when vehicle is on a hill. _____

a) Passenger Door Tracks: Sliding doors must have reinforced glides with an added stop brace to prevent doors from sliding off track. Door tracks shall be reinforced or strengthened beyond OEM standards as needed in all areas of contact with sliding door arms. _____

b) Sliding Passenger Door Arms/Brackets: Reinforcement of the sliding door components shall at a minimum be adequate to support the excess weight created by the floor and door extensions. Under normal closure conditions, there should be no evidence of door track "flexing" or wobbling. _____

c) Sliding Doors Closure: The minivan sliding passenger doors shall pass the "one hand" close test, whereby the sliding doors shall be closed and latched by pulling the door handle with one hand. Full instructions shall be provided on the proper maintenance and periodic adjustment of the sliding door(s). _____

d) Locks: All doors shall be lockable by key from the exterior. All access doors shall have power locks with driver single control capability in the interior. All door locks shall be keyed alike. _____

e) Sliding Left Passenger Door: An OEM-built second sliding door shall be provided on the rear passenger left side of the vehicle. Second stage manufacturer-built sliding doors are not acceptable for this specification. Door height opening shall be a minimum of 132.08 (52"). Door width shall be as provided by the OEM. Door shall be equipped with an interlock system so that door cannot be opened from the inside or outside when fuel door is open. _____

f) Rear Door Emergency Exit: The rear cargo door shall be provided with a quick release, manual override for opening the door from inside the vehicle. The vehicle override device shall be mounted on the inside of the rear door to prevent accidental release. The handle shall be coated with a florescent yellow for easy identification, and a decal with minimum 1.27cm (1/2") letters shall attached near the handle with opening instructions. _____

g) SIGNAGE: All emergency exits and signs shall comply with the Federal Motor Vehicle Safety Regulations, the California Motor Vehicle Code, and California Highway Patrol Title 13. _____

17.7 INTERIOR PANELS: All interior panels shall be OEM vinyl/cloth or equal. Materials and treatments shall be flame retardant to meet FMVSS 571.302 and be surface treated for efficient cleaning. Panel fastening devices shall match the color of the panels. _____

17.8 INTERIOR COLOR: The interior shall provide a pleasant atmosphere, be aesthetically pleasing, and contain smooth finishes without any unprotected sharp edges. The basic vehicle interior shall be a dark blue/gray, with additional color selections subject to Contractor availability. _____

17.9 METAL FINISH: The doors and instrument panels shall be painted or otherwise finished with a non-reflective glare finish to match the overall tones of the interior panels, OEM is acceptable.

18.0 FLOORING:

a) Sub Floor: The interior floor shall be insulated with a minimum .8255 cm 3/8" thick marine grade plywood, moisture-proofed, or approved equal, to minimize interior noise. The adhesive used in the production of said plywood must be marine quality.

b) Floor Pan: The floor pan shall be a minimum #16 gauge stainless steel. The metal floor pan shall be a high-grade steel, with a rust inhibiting epoxy primer or equivalent covering the weld joints. The replacement vehicle floor and related components must be structurally sufficient to requirements of FMVSS 207 and 210 for all seating systems and belt anchorages as well as SAE J2249 for the mobility aid restraint system. Said tests must be performed inside a representative vehicle structure. Bench testing of individual components independent of the vehicle will not be accepted. The resulting floor must be continuous and sealed to provide a watertight interior compartment. The replacement vehicle floor and related components must be corrosion resistant, meeting the requirements for 1000-hr exposure as specified in ASTM B117.

c) Floor Covering Material: The floor surface shall be covered by a commercial grade transit flooring, Altro or equivalent, possessing anti-skid properties. The floor covering color, Dark Grey or Ebony, shall be coordinated with the vehicle interior.

d) Trip Hazards: All areas of the vehicle interior floor shall be level, with no tripping hazards throughout the access area. Mobility Aid restraint tracks, and seat locks shall be beveled, with no sharp edges and will protrude no more than 635cm (1/4") above floor surface.

e) Foot Rest: There shall be two fold-up footrests placed just ahead of the rear most seats. The footrest shall be covered with a non-skid surface and have a color contrasting edge.

18.1 SEATS AND GRAB HANDLES

a) FMVSS Compliance: All seats and restraints in the vehicle as specified must comply with current FMVSS standards, including 201, 202, 207, 208, 209,210, and 214. Documentation of current model year testing and seats as specified within shall be provided with the bid. Bench testing of individual components independent of the vehicle will not be accepted.

b) Driver's Seat: Each driver's seat shall be OEM vinyl upholstery or high quality vinyl material of not less than 1.134 g (36 oz.) per running yard, adjustable forward and back, with vinyl fold up armrests.

Seats and Grab Handles (Cont.)

c) Front Passenger Seat: The front passenger seat shall be OEM, matching the driver's seat. The seat base shall be adapted to permit easy roll out for mobility aid access, OEM style is acceptable. The seat shall lock and unlock easily from the floor area, and have a positive lock device with visual indicator that assures securement is in place. _____

d) Rear Center Seat: The center seat shall be a two passenger fold up type, reference FREEDMAN MV-Foldaway #31200, C.E. White ADA-35 or approved equal, without outer leg locking floor latch. Seat shall have vinyl fold up armrest to match seat color on the right side. Fabric and color shall match OEM. _____

e) Rear Center Seat Pedestal Lock: The rear center seat shall have an automatic lock mechanism built into the seat mounting pedestal to prevent seat flipping up during left side boarding. Lock must be engineered and installed by the seat provider and meet all specified test requirements. _____

f) Rear Center Seat Clearance: Fully folded, there shall be a minimum of 127cm (50") of clearance from the lowest outer edge of the folded seat bottom cushion to the right sliding door opening at inside ramp edge. _____

g) Rear Passenger Seat: The rear most passenger seat shall be a bench type seat, capable of comfortably accommodating at least two adult size passengers. OEM type is acceptable and covered with vinyl upholstery to match drivers seat (b). _____

h) Fabric Protection: All upholstery must be protected with Scotch Guard brand fabric protector. _____

i) Federal Safety Standards: All seats and seat mountings that are not OEM shall comply with **FMVSS 571.302.** _____

j) Passenger Restraint: Passenger restraints shall be furnished for all passengers, consisting of shoulder seatbelts and/or lap belts. Securement devices, both for ambulatory and mobility aid passengers, shall meet all State and Federal standards. _____

k) Grab Handles: Grab handles shall be installed, one on the pillar between the front and rear right sliding door, one mounted on the pillar between the left front and left rear sliding door, one on each side of the rear most passenger seat pillars, one mounted in the interior on the right front passenger side. Where already installed, OEM are acceptable. The grab handles shall be padded with a non-slip surface for comfort and safety and conform to ADA requirements as listed in 49 CFR, Part 38, Subpart B. _____

18.2 MOBILITY AID SECUREMENTS:

a) Mobility Aid Security and Occupant Restraint Systems: The securement system shall be Q'Straint Securement System model QRT Q 8100-A1 with Part number Q-8100-Al-H-L or approved equal. Retractors MUST be AUTOMATIC SELF-LOCKING and SELF-TENSIONING. The system(s) shall be flanged "L" continuous track mounted type, capable of securing a variety of common mobility aid designs and accommodate a wide range of occupant sizes. The Contractor shall provide detailed instructions for mobility aid placement, tie-down belt operation, etc. Each vehicle shall come with two retractable tie-down systems. _____

b) Mobility Aid Securement and Occupant Restraint System(s): All attachment hardware and anchorages, shall meet or exceed the following requirements: _____

* 30 mph/20 Impact Test criteria per SAE J2249
* 36 CFR Part 1192 and CFR Part 38 (ADA)
* All applicable Federal Motor Vehicle Safety Standards (FMVSS), as amended
* California Code of Regulations, Title 13

c) Mobility Aid Securement System: Each vehicle shall be equipped with the number of securement systems as required in Section 12.1 of this specification. _____

d) Mobility Aid Anchorage: Each securement position system set shall consist of four (4) adjustable, securement strap assemblies which attach to the structural frame of the mobility aid at four separate points, and anchor into the track on the vehicle floor at four separate points. Two strap assemblies shall attach to the rear of the mobility aid, with over center buckles for the rear two tiedowns and cam style for the front two points of securement. _____

e) Track Mounting: The system anchorages and/or "L" track shall be mounted to the vehicle in accordance with the requirements of the system manufacturer. A copy of the manufacturers installation instructions must be available to Caltrans upon request. _____

f) Track Installation: As standard, the vehicle shall be equipped with laterally oriented mobility aid restraint track. A longitudinally oriented track system shall be available. Floor plans illustrating locations of both systems must be submitted with the bid. _____

g) Occupant Restraint System: For each mobility aid securement system set installed in the vehicle, a corresponding Occupant Restraint System shall also be provided. The Occupant Restraint System shall consist of adjustable lap (pelvic) belt and a shoulder (upper torso) belt, and shall meet all applicable Federal Motor Vehicle Safety Standards (FMVSS), as amended _____

h) Belt Web Cutter: A high quality web cutter, equal to Tie Tec, for emergency use shall be provided with each vehicle, along with instructions for use. _____

Mobility Aid Securements (Cont.)

i) Storage Containers: The Contractor shall furnish and permanently install a container within the rear cargo area behind the rear seat to store First Aid Kit and Reflective Triangles. A sliding container shall also be constructed to fit under the drivers seat to store tie downs. Caltrans must approve final designs and placement.

j) Mobility aid and Passenger Placement: The bidder shall furnish drawings of proposed seating arrangements, including spaces for two (2) mobility aid positions, with one minimum clear area of 76.2 cm (30)" by 121.92 cm (48"). The bidder must indicate sufficient space for placing/boarding two mobility aids, one position in the rear passenger area and one position in the front passenger area. At a minimum, the securement location(s) and area(s) shall meet all applicable ADA requirements.

18.3 MOBILITY AID RAMP: The vehicle shall be equipped with a manually operated, folding, mobility access ramp which folds and unfolds through the right side door. The ramp must also swing out of the doorway about a nominally vertical axis providing clear access for ambulatory passengers. Bidders shall provide illustrations of their ramp construction, which must be built to withstand heavy transit use. This ramp shall comply with ADA, 49 CFR Section 38.23(c) and 38.25(b).

18.4 MOBILITY AID RAMP The fold and unfold motion of the ramp must be counterbalanced so that the force exerted by the operator does not exceed 15 lbs. And damped so that, in the event the ramp is allowed to free fall, no point along the ramp length shall move faster than 18 in/sec. The ramp shall comply with ADA, 49 CFR, sections 38.23(c) and 38.25(b).

a) Obstruction: The installed ramp shall not obstruct the view of the driver through any vehicle window.

b) Usable Width: The ramp shall have a minimum usable width of 76.2cm (30") and a slope meeting the requirements of ADA, 49 CFR, Section 38.23(c) Vehicle Ramp (5).

c) Tensioning Device: The ramp shall have an adjustable tensioning device installed that prevents rattling of the ramp while folded up inside the vehicle, during driving.

d) Mechanism: Both handle and cable or pull mechanism that releases ramp for swing away operation must be reinforced for transit use. Handle must be highlighted with florescent coloring for easy identification.

e) Hardware and Ramp Bracket: The ramp bracket shall be constructed of heavy gauge steel, reinforced to prevent bending and covered with an illumination type paint or coating for easy visibility while boarding. The bracket shall be as streamlined as possible and shall have a cover to remove sharp edges. Self-lubricating bearings will be used where necessary. The ramp bracket attaching

hardware shall be a minimum of grade 5, and shall be self-locking type to prevent loosening.

18.5 MISCELLANEOUS RAMP:

a) Ramp Surface: The ramp surface shall be continuous and made skid resistant through an epoxy/powder coating or similar permanent application, have no protrusions from the surface greater than .635 cm (1/4") and shall accommodate both four-wheel and three-wheel mobility aids.

b) Ramp Load: The ramp shall support a load of 340 kg (750 lbs.), placed halfway up the ramp distributed over an area of 66.04cm (26") by 66.04cm (26"), with a safety factor of at least three (3) based on the ultimate strength of the material.

c) Ramp Visibility: An outline of 2.54 cm (1") safety approved reflective tape, 3M or equivalent, shall run along both sides of the ramp and the outer and inner edge for increased visibility. Reflective yellow or white is desired.

18.6 VEHICLE PREPARATION: Upon final delivery, the vehicle(s) will be washed externally and cleaned internally, in a professional manner. Vehicles with road dust and mud, dirty carpets and floor, streaked and smudged windows, etc. will not be accepted at the delivery site unless the Contractor offers compensation for the cleaning service and the recipient agrees.

18.7 CALIFORNIA EMISSIONS: Vehicle engine and fuel system must have Certified California Emissions, submitted at the time of bid.

18.8 SAFETY EQUIPMENT: All safety equipment shall be OSHA and CHP Title 13 compliant, clearly marked, installed and secured to the vehicle, and must be easily accessible to the driver. Installation shall not interfere with passenger or driver boarding or de-boarding.

a) First Aid Kit: A minimum 10-unit first-aid kit shall be furnished and mounted in the rear storage container that meets the requirements of the California Code of Regulations, Title 13 Section 1243.

b) Fire Extinguisher: One metal or plastic constructed California Highway Patrol approved minimum 1.134kg (2.5 lb.) 4BC fire extinguisher shall be provided, containing a gauge to indicate the state of charge and an automotive-type bracket with easy release strap for storage/securement. Extinguisher shall be mounted in the rear storage area of the vehicle.

c) Reflective Triangles: One set of three triangle warning devices, in a container, meeting the requirements of FMVSS 571.125 and approved by the California Highway Patrol.

e) Dash Warning Light: A red, flashing, heavy duty warning light, minimum 2.54 cm (1") in diameter, will be installed on the driver's side dash panel, in an area clearly noticeable to the driver in a seated position, and activated when right or

Safety Equipment (Cont.)

left sliding door are open or ajar and the ignition switch on. Light lens or trim ring shall be clearly lettered, "door ajar".

e) Yellow Safety Tape or Coating: Accessibility features that impair vehicle boarding, or improve operator visibility, such as interior folding ramp pivot hinge, or center folding seat base, shall be covered with a yellow tape or coating to provide contrast.

f) Backup Alarm: A heavy-duty, weatherproofed warning alarm shall be provided that is audible from the outside when the transmission is in reverse.

g) Air Bags: Front airbags shall be installed and equipped for the model specified by the OEM, and will meet all Federal and State Safety Standards.

h) Rear Cargo Restraint: The rear cargo area will have web like nylon/elastic netting to secure objects.

18.9 TRAINING VIDEO: Upon vehicle delivery, the successful bidder shall provide each recipient agency with a professionally made, technical training video. The video shall be at least 30 minutes in duration and no more than 60 minutes.

a) Video Scope: The video shall review proper functional use of the vehicle, accessories, and options, including, but not limited to, proper techniques for deploying ramp, mobility aid securement, opening/closing and maintenance of sliding doors, operation of folding seat, etc.

b) Warranty Coverage: The video shall cover vendor warranty procedures, both chassis and conversion. Conversion warranty locations, contacts, and telephone numbers shall be identified.

c) Video Script, Draft and Approval: Prior to the first vehicle delivery, a video script shall be drafted and submitted to the State for approval. Once approved, a video draft shall be filmed and approved by the State prior to distribution.

19.0 PUBLICATIONS AND PRINTED MATERIALS: Each vehicle will have a complete set of operation, quality assurance, and warranty publications.

a) Operation Manual: A complete operations manual will be provided that covers the conversion features on the vehicle as listed in this specification. The manual will provide complete, comprehensive instructions for the mobility aid accessories, mobility aid ramp deployment, deployment of seats, and related equipment.

b) Quality Assurance Checklist: A quality assurance checklist will be completed by the contractor that documents a thorough inspection of each vehicle by a company representative immediately after construction and identifies any needed corrective action for specification compliance.

c) Warranty Information: Each vehicle will have a published listing of contractor warranty repair locations, including address, telephone number, and contact name. Location maps will also be provided.

20.0 TYPE V AND VI OPTIONS

Provide pricing for each of the following options:

OPTION 1: **OEM** Power passenger-side door

OPTION 2: **OEM** fabric seats

Attachment B

The minivan must contain at a minimum the following as standard features:

- Dual Air Conditioning
- AM/FM Stereo with CD
- Dark tinted windows
- Cruise control
- Tilt steering column
- Power door locks
- Power windows
- Largest cooling system available
- Largest alternator package available
- OEM or custom vinyl seats covers complete set (front and rear), heavy-duty easy clean surface, color to match upholstery, installed complete.

23.0 SAMPLE FLOOR PLANS

A-Z BUS SALES OPTIONAL PRICING (LINE ITEMS 3 & 9)

9.0 TYPE I, II, III OPTIONS

Provide pricing for each of the following options for Type I, II and III:

OPTION 1: SEATING - Optional seating shall match the existing seating in fabric, stitching, foam and design.

a) Folding Seat equal to Freedman Notch Back with top grab handle, armrest, color, fabric and foam to match standard seat specification. $ 996.00

b) 34"-36" equal to Freedman's Feather Weight Mid-Hi Flip Seat $ 765.00

c) 17"-18" equal to Freedman's Feather Weight Mid-Hi Flip Seat $ 665.00

d) Child Restraint Seat
Integrated Child Restraint seat model C. E. White ADA 35, CR/ADA-35/HB, or ADA-17 (or approved equal) for transportation of children up to 60 lbs. Seat must be rigid high back with integrated child harness built into the seat frame. Seat must be seat belt ready and be able to properly secure an infant carrier seat for a child under one year and under 20 lbs. Seat must meet FMVSS Standard 213. $ 925.00

OPTION 2: BRAKE RETARDER
A driveline electro-magnetic retarder of ample size shall be installed as recommended by the retarder manufacturer for the vehicle supplied. Retarder activation system shall be the foot control operated type integrated with the brake pedal. $6,500.00

OPTION 3:

a) Alternator: Pentex PX-5 alternator. $1,100.00

b) Roof Vents: Equal to Transpec Model 1000 six way adjustable $ 733.00

c) 8 D Battery $ 600.00

d) Additional Mobility aid position(s) with tie downs $ 760.00

e) Energy absorbing HELP bumper Front $ 875.00

f) Electric Passenger Door Rear $ 850.00
$ 595.00

g) Mor Ryde Suspension System $1,350.00

h) Credit for each seat left out of standard vehicle Credit $ -85.00

i) Ricon K2005 Kleerview lift or approved equal $3,251.00

Option 4:

Raised floor when necessary to provide additional securement positions. $1,486.00

Option 5:

Park Crank Only Module (PCOM) (Ref. Intermotive Part No. PCOM) or approved equal
Allows engine to start only when transmission is in "Park" range $ 250.00

DuraTrans Programmable Overdrive Controller (DuraTrans POC) (Ref. Intermotive Part No. DT301) or approved equal
Automatically disengages overdrive gear of automatic transmission
Allows for programming of engagement & disengagement for overdrive feature $ 650.00

Option 6: Diesel

Largest OEM diesel available.

$4,950.00

Engine size 6.5 Chevrolet
7.3L Ford